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Jameco Part Number 219061 (CXE15-48S05)

CXE15 Series

Single output

ARTESYN TECHNOLOGIES

DC/DC CONVERTERS | 10.8-15W High Efficiency DC/DC Converters | 1

- **High efficiency topology, 87% typical at 5V**
- **Industry standard footprint**
- **Wide operating temperature, up to and exceeding 70˚C (natural convection)**
- **90% to 110% output trim**
- **No minimum load**
- **Overvoltage protection**
- **Remote on/off control**

The CXE15 is a new high efficiency open frame isolated 15 Watt converter series in an industry standard footprint. The first four models in the series feature an input voltage range of 33 to 75VDC and are available in output voltages of 5V, 3.3V, 2.5V and 1.8V. The output voltage on each model is adjustable from 90% to 110% of the nominal value. Typical efficiencies for the models are 87% for the 5V, 86% for the 3.3V, 85% for the 2.5V and 83% for the 1.8V version. The CXE15 series also has a remote on/off capability with active high or active low logic. Overcurrent and overvoltage protection features are included as standard. With full international safety approval including EN60950 and cUL1950, the CXE15 reduces compliance costs and time to market.

CE (LVD) cULus TÜV

2 YEAR WARRANTY

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability		90% to 110%
Total error band	(See Note 11)	±3.5% max.
Line regulation Low line to high line	1V8 and 2V5 models 3V3 and S05 models	0.5% max. 0.1% max.
Load regulation Full load to min. load	1V8 model 2V5 model 3V3 and S05 models	2.0% max. 1.5% max. 0.5% max.
Minimum load		0%
Overshoot	1V8 and 2V5 models 3V3 and S05 models	3.5% max. None
Undershoot		None
Ripple and noise (See Note 1) 5Hz to 20MHz	1V8 and 2V5 models 3V3 and S05 models	40mV pk-pk 14mV rms 70mV pk-p 20mV rms
Transient response (See Note 2) typ. deviation	1V8 and 2V5 models 3V3 and S05 models	150mV 100mV 400µs recovery to within total error band

INPUT SPECIFICATIONS

Input voltage range	48Vin nominal	33 to 75VDC
Input current	No load Remote OFF	35mA max. 25mA max.
Input current (max.)	(See Note 4)	0.55A max. @ Io max. and Vin = 33 to 75V
Input reflected ripple	(See Note 6)	5mA (pk-pk) typ.
Active high remote ON/OFF Logic compatibility ON OFF		(See Note 10) Open collector ref to -input Open circuit or >2VDC <1.2VDC
Undervoltage lockout	Power up Power down	33V (typ.) 30V (typ.)
Start-up time (See Note 7)	Power up Remote ON/OFF	1.5ms (typ.) 2.5ms (typ.)

EMC CHARACTERISTICS

Conducted emissions	EN55022 (See Note 3) EN55022 (See Note 3)	Level A Level B
Radiated emissions	EN55022 (See Longform data sheet)	Level B
Immunity:		
ESD air	EN61000-4-2	8kV, 15kV
ESD contact	EN61000-4-2	6kV, 8kV
Radiated field enclosure	EN61000-4-3	10V/m
Conducted (DC power)	EN61000-4-6	10V
Conducted (signal)	EN61000-4-6	10V (See Note 8)
Input transients	ETS 300 132-2, ETR 283	

GENERAL SPECIFICATIONS

Efficiency		See table
Operational insulation	Input/output	1500VDC
Switching frequency	Fixed	265kHz typ.
Approvals and standards (See Note 5)		UL/cUL1950, EN60950 TÜV Rheinland
Material flammability		UL94V-0
Weight		12g (0.42oz)
MTBF	MIL-HDBK-217F	>600,000 hours
Representative model:	48S05 @ 48Vin, 40°C, 100% load ground benign	
	BELLCORE 332	>1,500,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 9)	Operating ambient temp. (3.3V and 5V)	-40°C to +65°C
	Operating ambient temp. (1.8V and 2.5V)	-40°C to +70°C
	Non-operating (All models)	-40°C to +120°C

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Single output

ARTESYN TECHNOLOGIES

For the most current data and application support visit www.artesyn.com/powergroup/products.htm

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER (10)
							LINE	LOAD	
10.8W	33-75VDC	2.3VDC	1.8V	0A	6A	83%	0.3%	2.0%	CXE15-48S1V8
15W	33-75VDC	3.2VDC	2.5V	0A	6A	85%	0.3%	1.5%	CXE15-48S2V5
15W	33-75VDC	4.0VDC	3.3V	0A	4.5A	86%	0.1%	0.5%	CXE15-48S3V3
15W	33-75VDC	6.0VDC	5.0V	0A	3A	87%	0.1%	0.5%	CXE15-48S05

Notes

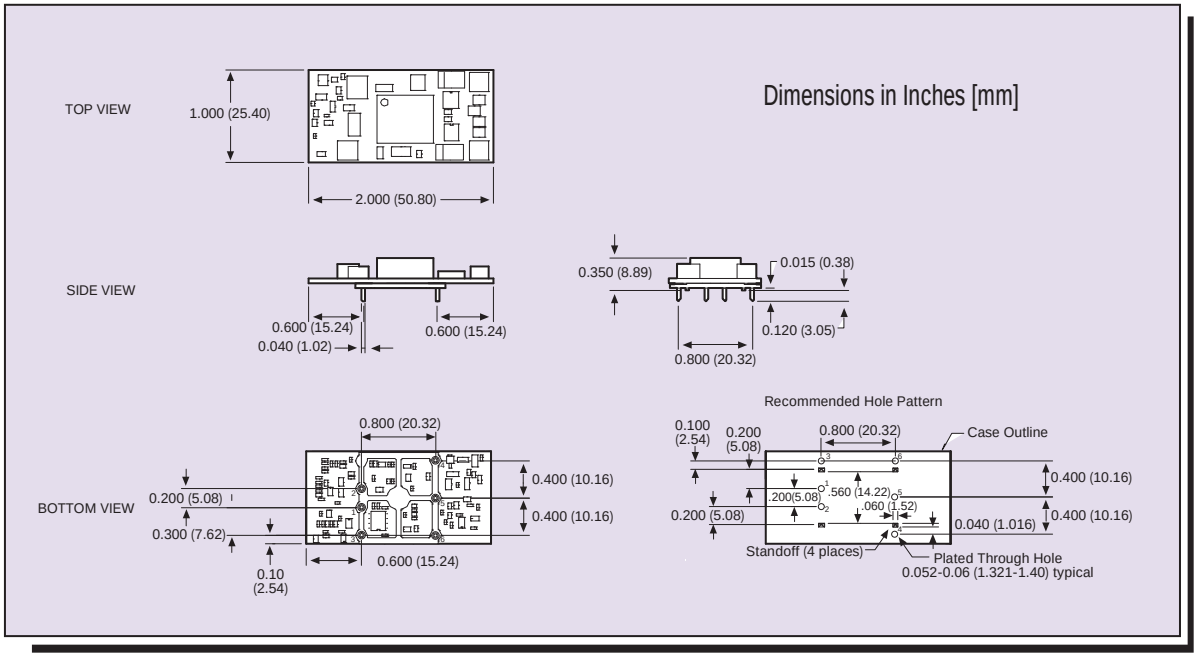
1 Measured as per recommended set-up. See Application Note 116 for details.
2 di/dt = 0.1A/µs, Vin = 48VDC, Tc = 25°C, load change = 0.5 Io max. to 0.75 Io max. and 0.75 Io max. to 0.5 Io max.
3 The CXE15 meets level A and level B conducted emissions only with external components connected before the input pins to the converter. See Application Note 116 for details.
4 Recommended input fusing is a 2A HRC 200V rated fuse.
5 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
6 Measured with external filter. See Application Note 116 for details.
7 Start-up into resistive load.
8 Signal line assumed < 3m in length.
9 Operating ambient temperatures are specified at natural convection. Higher operating temperatures are possible with increased airflow. See Application Note 116 for details.
10 Remote ON/OFF (pin 3) and Trim (pin 5) are currently available individually or together by special order only. Manufacturing lead times may apply. The base model includes pins 1, 2, 4, and 6. Use the suffix '–R' for pin 3 with negative logic, '-S' for pin 3 with positive logic, and '-T' for the Trim pin. For example, a CXE 5V output with all six pins and positive remote ON/OFF logic should be ordered as 'CXE15-48S05-ST'.
11 This parameter is calculated at worst case line, load, temperature and initial settings.

PROTECTION	
Short circuit protection	Continuous
Overvoltage protection	Non-latching clamp

TELECOM SPECIFICATION	
Central office interface A	ETS300-132-2, input voltage and current requirements

CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.

PIN CONNECTIONS	
PIN NUMBER	FEATURE
1	Vin -
2	Vin +
3	On/Off (See Note 10)
4	Vout +
5	Trim (See Note 10)
6	Vout -



International Safety Standard Approvals

c UL us — UL/cUL 1950 3rd edition. File No. E135734

TÜV — TÜV Rheinland. Certificate No. R2074133

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